An unusual presentation of intra-abdominal tuberculosis in a young man

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Introduction

As the world incidence of tuberculosis increases, atypical presentations may become more common.

Case report

A 20-year-old Nepalese man presented with a 3-day history of left iliac fossa (LIF) pain. He had migrated to the UK from Nepal three years ago and succinctly reported anorexia and passing initially dark turning to bright red blood per rectum with no change in bowel habit. He had no past medical or surgical history of note with no risk-taking behaviour and no contact with a tuberculosis (TB) patient. On examination he had a temperature of 37.9°C and was tender to palpation in the left lower quadrant with no peritonism. On digital rectal examination, fresh red blood was found and no irregular masses were palpated.

Routine blood test revealed a normocytic anaemia with a haemoglobin of 4.7 g/dL (normal value Hb 13–18 g/dL) and a mean cell volume of 83 fL (normal value 76–96 fL). All other routine blood tests were normal apart from an albumin of 24 g/L (normal value 35–50 g/L) and an elevated C-reactive protein (CRP) of 70 mg/L (normal value <7 mg/L). A chest X-ray showed a suspicious right upper lobe shadow. An abdominal X-ray was unremarkable.

The patient was transfused 4 units of blood but 48 hours after admission he developed a swinging pyrexia of up to 39.6°C. His serum inflammatory markers revealed a white cell count increasing from 9 to 15 (normal value 4–11), erythrocyte sedimentation rate of 75 (normal value <10) and CRP of 152. Gastroscopy showed gastritis and flexible sigmoidoscopy demonstrated altered blood in the left side of the colon, but normal colonic mucosa.

As the patient showed no improvement, a CT scan of the abdomen and pelvis was performed. A large fluid collection within the pelvis containing pockets of free intraperitoneal gas was identified with small bowel dilatation (Figure 1). The CT also revealed a non-inflamed appendix which raised the possibility of Meckel's diverticulitis as the working diagnosis at this stage. The findings at an urgent laparotomy were densely matted and adherent small bowel with a profuse thick gelatinous exudate. The small bowel surface and mesentery were covered in discrete nodules (Figure 2). Biopsies were negative for acid fast bacilli but histopathological examination revealed granulomas consistent with peritoneal and small bowel TB. The TB multidisciplinary team were consulted postoperatively and, with the patient's consent, a HIV test was performed which proved to be negative. The mycobacterium tuberculosis identified was fully sensitive to anti-tuberculosis treatment and the patient made a good postoperative recovery.

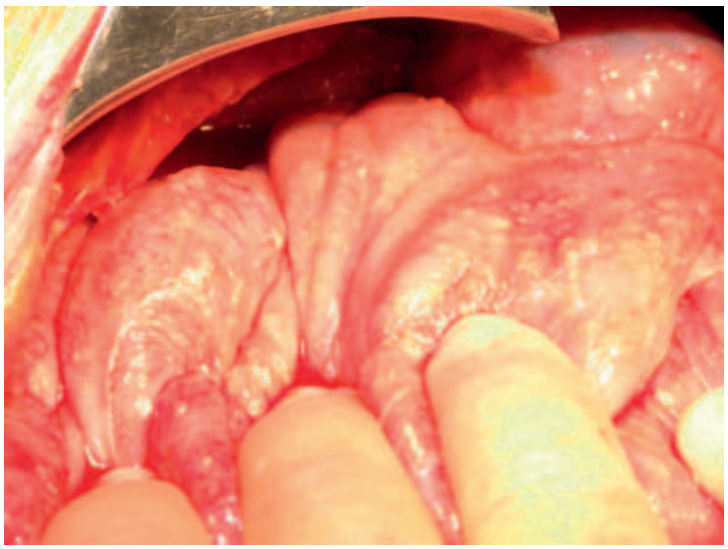
Discussion

This case highlights the importance of maintaining a high index of suspicion for TB and awareness of the various ways in which it can present. TB causes an estimated 3 million deaths annually worldwide.[1] Gastrointestinal TB (GI-TB), known as the great mimicker because of its diverse presentations, is the sixth most common extra-pulmonary site after lymphatic, genitourinary, bone and joint, miliary and meningeal TB.[2] The incidence of GI-TB is predicted to rise in line with increasing cases of HIV infection. Although GI-TB can occur at any age, almost two-thirds of patients are 21–40 years old with a slight female preponderance.[3] The routes of acquiring GI-TB are haematogenous or lymphatic spread from a primary source, ingestion of infected sputum or direct spread from an adjacent organ.[2]

Figure 1
Large pelvic fluid collection with pockets of free intraperitoneal gas

One of the most prevalent sites of GI-TB is the ileocaecal region. The pathology includes transverse ulcers and fibrosis of the bowel wall, matted mesenteric lymph nodes, omental and peritoneal deposits. Peritoneal TB has three traditional classifications: (1) wet with ascites; (2) fibrotic with omental thickening; and (3) dry with adhesions.

Figure 2
Small bowel surface covered in diffuse miliary nodules



The common presenting symptoms and signs of GI-TB are anorexia, fever, weight loss, abdominal pain, abdominal mass, doughy abdomen and ascites.[1,4,5] Relatively few cases of GI-TB presenting with blood per rectum have been reported in the literature.[2,6] Sources of blood per rectum include rectal TB where this is the most frequent presenting symptom and colonic TB where there is usually minor bleeding. Overall only 4% of lower gastrointestinal bleeding is attributable to TB.[2] Characteristic abdominal CT findings include ascites, fibrinous strands, a pelvic mass and calcified or enlarged retroperitoneal lymph nodes.[1,2,4,5,7]

A tuberculin test in this scenario may be of limited value as it confirms TB in only a few cases. Furthermore, testing for acid fast bacilli in ascitic fluid is reported to have a diagnostic yield of 3%.[2] A positive culture for TB from ascitic fluid is higher but still under 20% and takes 6–8 weeks which can cause a significant delay in the initiation of treatment. However, polymerase chain reaction or cytology of ascitic fluid gained by ultrasound-guided fine-needle aspiration appears to be more reliable in expediting the diagnosis and can avoid the need for a laparotomy if treatment is commenced early.[1,8]

Diagnosis can also be made through biopsy at laparoscopy or laparotomy with a typical macroscopic appearance of diffuse 'miliary nodules' or plaques, ascites, fibrinous strands, with thickened peritoneum and omentum.[1]

As the worldwide incidence of TB continues to rise, clinicians need to be aware that atypical presentations of TB may occur more commonly. A high index of suspicion is required to avoid unnecessary delays in diagnosis and treatment especially in patients native to or with a history of recent travel from areas where TB is endemic.[9]

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